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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,723	02/02/2004	Katsuya Tanaka	16869N-104900US	2283

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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER

PATEL, HETUL B

ART UNIT	PAPER NUMBER
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2186

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/770,723

Applicant(s)

TANAKA ET AL.

Examiner

Hetul Patel

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communication filed on November 07, 2005. This amendment has been entered and carefully considered. Claims 1-9 are again presented for examination.

2. Applicant's arguments filed on November 07, 2005 have been fully considered but deemed to be moot in view of new ground rule rejection.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the destination drive I/O port must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

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of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4-6 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by Tanaka et al. (USPN: 2003/0191891) hereinafter, Tanaka.

5. Claims 1-2, 4-6 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As per claim 1, Tanaka teaches a disk device (shown in Fig. 8) comprising: a disk controller (i.e. DKC1 and DKC2 in Fig. 8) comprising a channel adapter (i.e. CHA1 and CHA2 in Fig. 8), a cache memory (i.e. CM1 and CM2 in Fig. 8), and a disk adapter (i.e. DKA1 and DKA2 in Fig. 8); and a disk array (i.e. DA1 in Fig. 8) comprising disk drives (i.e. DK1-DK4 in Fig. 8), each being equipped with a plurality of I/O ports (i.e. each disk drive equipped with two ports; see Fig. 8), wherein said disk adapter and said disk array are connected via a switch (i.e. SW1 and SW2 in Fig. 8), and wherein a destination drive I/O port to which a frame is to be forwarded is determined, according to the type of a command included in an exchange that is transferred between said disk adapter and one of said disk drives (e.g. see paragraphs [0044]-[0045]).

As per claim 4, see arguments with respect to the rejection of claim 1. Claim 4 is also rejected based on the same rationale as the rejection of claim 1.

As per claim 2, Tanaka teaches the claimed invention as described above and furthermore, Tanaka teaches that the destination drive port to which said frame is to be forwarded is determined, depending on whether the type of the command is a data read command or a data write command (e.g. see paragraph [0053]).

As per claims 5 and 8, see arguments with respect to the rejection of claim 2. Claims 5 and 8 are also rejected based on the same rationale as the rejection of claim 2.

As per claim 6, Tanaka teaches a disk device (shown in Fig. 8) comprising: a disk controller (i.e. DKC1 and DKC2 in Fig. 8) comprising a channel adapter (i.e. CHA1 and CHA2 in Fig. 8), a cache memory (i.e. CM1 and CM2 in Fig. 8), and a disk adapter (i.e. DKA1 and DKA2 in Fig. 8); and a disk array (i.e. DA1 in Fig. 8) comprising disk drives (i.e. DK1-DK4 in Fig. 8), each being equipped with a plurality of I/O ports (i.e. each disk drive equipped with two ports; see Fig. 8), wherein said disk adapter and said disk array are connected via a switch (i.e. SW1 and SW2 in Fig. 8), and wherein said disk adapter determines destination information within a frame to be transferred from said disk adapter to one of said disk drives, according the type of a command included in an exchange between said disk adapter and the one of said disk drives (e.g. see paragraphs [0044]-[0045]). Furthermore, Tanaka teaches that the switch (SW1 in Fig. 1) selects one of port to port connection paths between a port to which said disk adapter (DKA in Fig. 1) is connected and ports to which the disk drives (shown in Fig. 1) constituting said disk array are connected to switch each frame inputted to the switch, according to the destination information within the frame (e.g. see paragraphs [0043]-[0044]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Hashemi et al. (USPN: 5,396,596) hereinafter, Hashemi.

As per claim 3, Tanaka teaches the claimed invention as described above. However, Tanaka failed to teach the further limitation of executing said exchange for reading data and said exchange for writing data in parallel. Hashemi, on the other hand, teaches about reading and writing data in parallel/simultaneously (e.g. see Col. 7, lines 8-16 and Figs. 9-10). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the current invention was made to implement the teachings of Hashemi in the disk device taught by Tanaka. In doing so, the overall performance of the disk device is improved. Therefore, this is being advantageous.

As per claims 7 and 9, see arguments with respect to the rejection of claims 1-3. Claims 7 and 9 are also rejected based on the same rationale as the rejection of claims 1-3.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hetul Patel whose telephone number is 571-272-4184. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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MATTHEW D. ANDERSON
PRIMARY EXAMINER